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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,188	09/08/2003	Christian Kurt Bottger	116998	8413
25944	7590	12/14/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			CAMERON, ERMA C	
			ART UNIT	PAPER NUMBER
			1762	
DATE MAILED: 12/14/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/656,188

Applicant(s)

BOTTGER ET AL.

Examiner

Erma Cameron

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to After Final Amendment***

1. The after final amendment of 11/10/2005 has been entered.

The examiner is withdrawing the indication of allowability of original claim 17. The examiner apologizes for any inconvenience this may cause.

Claims 1-16 have been examined

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The rejection of Claims 1, 3-4, 7-8 and 14 under 35 U.S.C. 102(b) as being clearly anticipated by WO 89/06190, is withdrawn because of the amendment filed 11/10/2005.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-4 and 6-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 89/06190.

'190 teaches applying a fluoroelastomer (16:28) in aqueous emulsion (20:2-17) to an aramid fiber that may be poly(phenylene terephthalamide) (8:14). The fluoroelastomer is applied in a variety of ways, such as in a bath and /or using rollers (19:29-20:1; 23:2-34; 32:32; see Figures 14 and 15). It appears that the fluoroelastomer is applied at room temperature, thus meeting the limitations of claim 11. The emulsion that is applied to the aramid fiber may contain lubricants or other materials (22:8-17), which would be inclusive of the antistatic agent of claim 6. The solvent is then evaporated (23:2-33). The solvent is removed at a temperature above the vaporization temperature of the solvent and below the degradation T and/or MP of the aramid fiber and coating material (27:27-34). Because '190 is using the same aramid fiber, the same type of fluoroelastomer and water as a solvent, the drying T and time is expected to overlap with the T and time claimed by the applicant. The coating can be applied as low as 1% by weight of the fiber (20:34-21:17), which meets the limitations of claim 1.

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'190 does not teach the g/l of the coating fluoroelastomer, but because the coating weight may meet the limitations of 0.1-2% by weight, the coating emulsion concentration of '190 is expected to be the same as that claimed by applicant.

The coated fibers are then formed into, for instance, a plain woven fabric (15:3-15) and heat treated with pressure to make a ballistic cloth. The heat is up to 155 degrees C and the time is 1 to 5 minutes (19:5-28), which overlaps with applicant's claimed time and temperature for treating the cloth.

'190 teaches that coating the fabric, rather than the fiber results in an inferior product ballistically (see example 3).

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 89/06190 taken in view of (Kwolek) 3671542.

'190 is applied here for the reasons given above.

'190 fails to teach that the aramid yarn is provided by a spinning process from a wash bath.

'542 teaches that poly (p-phenylene terephthalamide is prepared by a spinning process into a coagulating bath, followed by a wash bath and drying (see Example 1).

It would have been obvious to one of ordinary skill in the art to have employed a conventional process such as the one taught by '542 to make the aramid yarn of '190.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 89/06190 taken in view of WO 92/01108 or Jakob et al (Technische Textilien, 41(3), E48, 1998).

‘190 is applied here for the reasons given above.

‘190 fails to teach applying a fluoroacrylated to the aramid fiber.

‘108 teaches that applying a fluorinated methacrylate (a homologue of an acrylated) to an aramid fiber improves “certain physical and chemical properties of the fiber” (page 1) such as hydrolytic resistance. The aqueous dispersion contains at least one fluorinated alkyl methacrylate polymer. The fluorinated polymer is applied at 0.25-2% by weight of the fiber (pages 1-2 and Abstract). At least one fluorinated alkyl methacrylate means that a mixture of two or more may be used in the aqueous dispersion.

Jakob et al teaches that OLEOPHOBOL fluoropolymer, which is one of the fluoro acrylates used by applicant, is especially preferred to treat aramid fibers, resulting in a high degree of wet ballistics protection (see Abstract and full text). Jakob et al fail to teach that there is a mixture of fluoroacrylate polymers used, but it would have obvious to one of ordinary skill in the art to have more than one treating agent, with the expectation of superior results from more than one treating agent.

It would have been obvious to one of ordinary skill in the art to have used the fluorinated methacrylate of '108 or the OLEOPHOBOL of Jakob in the '190 process because of the teaching of each reference of the advantages of its particular treatment of aramid fiber.

### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erma Cameron whose telephone number is 571-272-1416. The examiner can normally be reached on 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Erma Cameron*  
**ERMA CAMERON**  
**PRIMARY EXAMINER**

Erma Cameron  
Primary Examiner  
Art Unit 1762

November 9, 2005